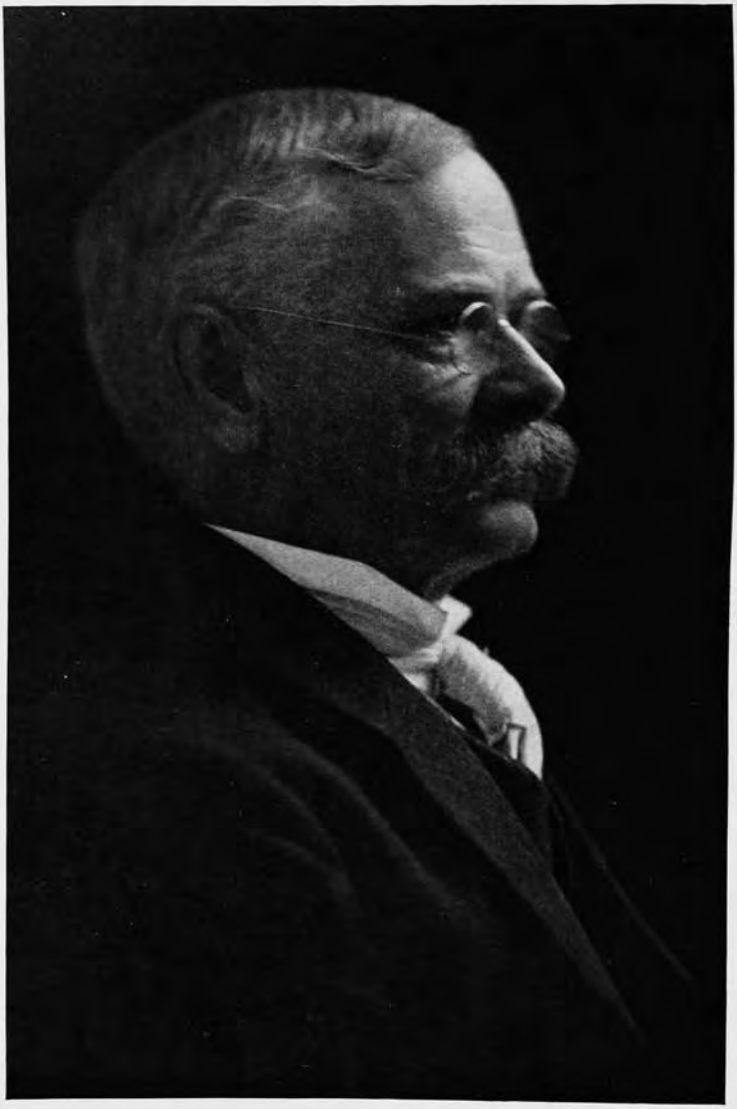

J. H. Leonstock

OFFICIAL PUBLICATIONS
OF CORNELL UNIVERSITY

VOLUME V NUMBER G

THE COMSTOCK MEMORIAL

A Report of the Exercises in Connection with
the Presentation of

THE COMSTOCK MEMORIAL LIBRARY FUND

TO

CORNELL UNIVERSITY

on the Occasion of the Retirement of

PROFESSOR JOHN HENRY COMSTOCK

at the close of forty-one years of
active service

SATURDAY, JUNE 13, 1914

SEPTEMBER 15, 1914
PUBLISHED BY CORNELL UNIVERSITY
ITHACA, NEW YORK

PREFATORY NOTE

ON THE occasion of the retirement from active service of John Henry Comstock, Professor of Entomology and General Invertebrate Zoology in Cornell University, his former students presented to him a fund ($2,500) for the establishment of a memorial library of Entomology. This fund was then presented by Professor Comstock to Cornell University, to keep in trust and to use its income for the purposes indicated by the donors of the fund.

The exercises in connection with the presentation of this memorial were held in the Assembly Room, Roberts Hall, Saturday afternoon, June 13, 1914. The Floriculture Department had prepared elaborate floral decorations; the date '73, when Professor Comstock was made instructor in Entomology, and '14, the year of his retirement, together with a large C, were formed in flowers and hung on the wall back of the stage.

At the hour set for the meeting, the University chimes were rung in honor of Professor Comstock, and very appropriately, for he was the chime master in 1872–3; and scores that had been arranged by him at that time were played. Some of these scores had been arranged at the special request of Jennie McGraw, the donor of the chimes.

The exercises were largely attended by former students, colleagues, trustees of the University, and other friends of Professor Comstock. An especially pleasant feature was the presence of many of his college classmates, who were in Ithaca, it being the fortieth anniversary of the graduation of their class.*

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*CONNECTION OF JOHN HENRY COMSTOCK WITH CORNELL UNIVERSITY

He entered the university in 1869 and graduated with the degree of B.S. in 1874.

In the spring of 1872 he gave a course upon Entomology and was instructor in this subject from 1873 to 1876. In 1876 he became assistant Professor of Entomology and General Invertebrate Zoology and continued in that position till 1882 when he became Professor of Entomology and General Invertebrate Zoology.

In 1914 he retired at the age of 65.

During his connection with Cornell University he acted, during leaves of absence or during vacations, in the following capacities:

Summer vacation of 1872—Advanced work in the Museum of Comparative Zoology, Harvard University.

1875—Graduate work at Yale University.

1888–1889—Graduate work at the University of Leipzig.

In 1877—he gave a course in Zoology at Vassar College.

1879–1881—he was U. S. Entomologist at Washington, D. C.

1891–1900—he was non-resident Professor of Entomology in Stanford University and spent his long yearly vacation in this work at Stanford.

ORDER OF EXERCISES

Ringing of the Chimes, - - - - *F. O. Ritter*

Introductory Remarks by the Chairman, - *S. H. Gage, '77*

Address, - - - - - - *L. H. Bailey*

A Letter from David Starr Jordan, '72, read by *Mrs. Ruby G. Smith*

Address by a Classmate - - - - *W. R. Lazenby, '74*

Address by a Former Student, - - *L. O. Howard, '77*

(Dr. Howard was detained on Government business, but sent a letter, which was read by G. W. Herrick, '96)

Presentation of the Memorial, - - *J. G. Needham, '98*

Acceptance and Presentation to Cornell University,
Professor John Henry Comstock

Acceptance on behalf of the University, *President J. G. Schurman*

THE ADDRESSES

After the ringing of the chimes, the chairman, S. H. Gage, of the class of 1877, addressed the audience as follows:

Fellow Students, Ladies and Gentlemen:

The purpose of our meeting to-day is to express two loyalties: One to our Alma Mater, which has given to us so bountifully of her resources, and the other to our teacher and friend, who for over forty years has welcomed and inspired the passing generations of students, and like an elder brother, has shown us, with rare skill and sympathy, how to see with our own eyes the facts of nature already known; and as a master, has shown us how to appreciate the eternal principles of science, and how, with sure feet to follow new paths in original investigation.

This telegram has just been received:

CORVALLIS, Oregon.

From the Pacific Coast to the presentation exercises of the Comstock Memorial come greetings and congratulations. They are fortunate who are able to be present to hear the expressions of appreciation of a master teacher, a thorough scientist, and a good friend.

V. I. SAFRO and H. E. EWING.

The following message is from Dr. Paul Marchal, of the Station Entomologique, Paris:

FONTENAY AUX ROSES, June 13, 1914.

Comstock,
Cornell, Ithaca, N. Y.
Amicales félicitations.

MARCHAL.

In the later part of Professor Comstock's career, when facilities and assistance were put at his disposal, of which he did not dare to dream when some of us took his work, he had the sympathy and backing of the rare man, who in our generation has most clearly heard the "summons", and most effectively passed on the call to feel again the "Nature Kinship." This man will now address us.

THE COMSTOCK DEPARTMENT IN THE COLLEGE OF AGRICULTURE

Abstract of informal Remarks by L. H. Bailey on the Occasion of the Presentation of the Comstock Memorial Library Fund, June 13, 1914.

We are come together to celebrate an event of first importance to the University. We are to dedicate a fund for the founding of a library for special research; but the occasion of this presentation is the celebration of a man. In the last analysis, all that we ever celebrate is men and women. This library is to perpetuate the work and the influence of Professor Comstock. We have had here a work that has grown continuously for forty years, with inspiration, precision and effectiveness. It has not been my good fortune to have been one of Professor Comstock's students; but I have had what is in some ways the better advantage of being associated with him for many years on equal terms. If it has not been my privilege to have pursued courses of study in Cornell University, I have had the very great compensation of personal association with many of the men. Perhaps, therefore, I have a right to speak; and possibly I may be able to formulate very briefly the common feeling on the occasion of this celebration. We have all seen this particular unit in the University grow and prosper. I think I know several reasons why it has prospered.

First, as one connected with the administration of education through a number of years, I have been impressed with the perfectness and directness of the organization of Professor Comstock's Department. Although it has grown to comprise many persons on its staff, it has been a single-minded Department, all the elements working together toward one productive end. I am not thinking of a business organization, because departments of instruction can never be organized on the regularized basis of commercial concerns; and yet the business affairs of the Department have been competent and complete. I have been aware of the promptness of the Department to meet the demands upon it, and to supply information, reports and suggestions. It has been a pleasant Department with which to work, its records have been ready and on time; its students have been under control; it has been compact; it has had a departmental policy, and therefore has been a good working unit. All this means that the Department is adapted to its ends. I have been impressed, also, with the large part that the personal welfare of the student has

played in the organization and operation of the Department. The results of this are well expressed in the regard that the student has for the Entomology and its associated groups.

I have been further interested in Professor Comstock's Department because it so well represents the two aspects of University work. In the large, education has one aim; and this aim is the developing and the training of men and women. There are many ways, however, in which this training may express itself or be applied. There are many means of education. Professor Comstock and others in his Department are members of the Faculty in Agriculture; they are also members of the Faculty in Arts and Sciences. This has given the work of the Department a very broad outlook and it has tended to tie together two kinds of university effort. It is a Department of affiliations. It well expresses the fact that there is no antagonism between the old education and the new, between what are called humanities, pure science and applied science. This Department has served both sides of the educational work loyally and without any sense of conflict. This is a good example in any university. Such examples anywhere make not only for the training of students, but also for the training of the teachers themselves to the end that they may overcome or outgrow the tendency to educational toryism.

What are known as the historical subjects are essentially central in a great university; but everything that is added thereto is so much clear gain, not only for a university but to society. It was a regret to me that the number of students in the College of Agriculture overpassed the number in any other college in the university, for I have always thought of a great university of this kind as the crystallization of other colleges about the group of the humanities, although I would not limit the numbers in agriculture for this reason; but an important part of this increase in numbers is due to the work of this Department which so well represents the primary and the applied in university teaching.

The great attributes of a university may be expressed as unity and diversity,—unity in the ideals of teaching, and diversity in the means by which these ideals may be developed. This diversity also expresses itself in the reaction of an institution to the needs of society, for any university that is worthy of the name carries a human purpose and has a distinct social significance. The diversity in means of education also assembles not only a great number but a great variety of students. The members of the student body come together on

the basis of broad interests and diverse experiences. I think it a great gain for a young person to have had this contact with human experiences before he leaves college rather than to be obliged to wait for them until after commencement day.

In the third place, I have watched the work of the Department because of the character of its instruction. It has not been education in the mass or in concert. The student has been put to work at a personal problem, one student with one problem, with one microscope, with one specimen. He has been taught to see the object for himself and not to take the word of his neighbor. He has been challenged and stimulated to understand the object. He has been taught that his work is not complete until it is accurate. He follows his subject in order that he may attain the truth, and attain it for himself. Good education is always personal; it is the result of application, each student alone and on his own responsibility. The tendency is too apparent in this time to dispense learning to groups and to classes rather than to bring it about as the result of painstaking, consistent, and careful effort on the part of a student who has a separate seat, a separate instrument and a separate inquiry.

And again, I have been much impressed with the fact that this Department of Entomology has considered its great laboratory to be out of doors. It is not a laboratory department alone, in the sense in which we are likely to use the words. Here at Cornell the out-door feeling has always been strong; this is not only because the university is itself in the open, but also because there have been men like Comstock who have wanted to test their work against the fields and the forests and in the streams where the organisms live and die. It is fortunate for any university to stand hard by the open country where there are gorges and swales and uplands, where there are shores, deep forests and the tilled fields, where there is room for natural history. These detract nothing from the pursuit of the older humanities and they also add very much to the effectiveness of any study with the newer humanity, which is the putting of the student in touch with the great environment into which the race is born. This spirit was in Roberts, under whose portrait we sit; it has been in the great teachers in the College of Agriculture and elsewhere in the university; it has been a very marked attribute of this Department of Entomology.

And finally, I have been interested in the Comstock Department because of the contribution it has made to the State. Every institution of learning carries a great obligation to the people. An institu-

tion that receives State funds, has a very special and direct responsibility. Such an institution is to train the men and women who come to it; but it is also to extend itself, so far as it may, to meet the needs of the people who support it. The Entomology Department has always stood for the highest quality of teaching at home, and it has also been ready to apply this knowledge to the problems of the people. This is an important point of view, now that there is so much tendency to develop extension work when there is very little to extend. Good college and post-graduate work in any department is a prerequisite to good extension work outside. I speak as a citizen of the State and not as an officer of administration when I express my appreciation both of the carefulness of the training of students in residence, and also of the generosity of the spirit that would aid every man on his farm and at his home.

We are here today, then, in the spirit of congratulation. We congratulate you, Professor Comstock, on what you have done. We congratulate you on what you still have to do. I have hoped that you would retain your office in the buildings of the College of Agriculture, and here continue the work you have followed with so much devotion for more than forty years. I do not think of you as retiring, but only as continuing. You are to cease your active connection with the administration, but this only means, I hope, that you are to devote yourself more uninterruptedly to the work that has so long been associated with your name. One has a right to cease. A man's life may well be divided into three parts: one part for preparation; one part for service in an institution or an organization; and one part for living, and for making his contribution to the welfare of his fellows in just the way he may choose. Therefore, we come with no regrets and with no cause for sorrow. We have no right to grieve for the order of nature.

We congratulate Cornell University that you have been here, that you have brought together in all these years so many devoted sons and daughters, that you have assembled this faculty and staff. Your work is to be continued as you would have it continued; your spirit is still to guide it; there is no break in the plan.

So we are together to celebrate an epoch in the attainment of the ideals of education. These ideals are Comstock ideals.

At the close of the address by Professor Bailey the Chairman said:

Among the group of forceful students that sought the new University with the ideals given it by a representative of the virile and independent, thinking

common people in the person of our Founder, Ezra Cornell, and the precious scholarship and broad human sympathies of our first President, Andrew D. White, came David Starr Jordan. He had an instinct for men, and for good teachers as well as for science; and to-day we have a letter of his written for the occasion from Australia. By the rarest good fortune this message from one of Professor Comstock's very first students is to be read by one of Dr. Jordan's students, who is also one of the very last students taught by Professor Comstock.

LETTER FROM PRESIDENT DAVID STARR JORDAN

READ BY MRS. RUBY G. SMITH

I am sorry that I cannot be present on this great occasion. I have to remember Comstock as one of the very ablest of my students and as one of the most inspiring of my teachers, a complex fact that is the text for what I have to say.

Comstock and I have been in close relation for almost half a century, together in spirit all the time and for a fourth of the period together in bodily fact.

Besides the young enthusisam and the blessed poverty we shared together in the old Cornell, we stood also doubly in the relation of teacher and student. The name of college "instructor" had just then (in 1870) been invented in academic circles for subordinate teachers and we were both "instructors." In those far-off days, Comstock taught me all I know and most that I have forgotten of insects and insect life while I taught him the names and habits of the flowers of Western New York.

Such a combination works finely both ways, for the teacher's best rewards lie in the school of thinkers and observers he builds up around him; and the fairest memories of the scholar center around those who have led him to see and to think. At both ends of the line I find Comstock. We were boys in those days, boy-teachers as well as boy-scholars, young enough and green enough in all conscience, but we could "egg each other on, comrades in zeal"; the beginning of a process to which men finally give loftier names.

Now after forty-four years, I may freely tell a story which, so far as I know, has never been told before. In those days, it was believed that prizes were a help to scholarship. This is a fallacy. A prize may help a scholar sometimes, but not scholarship. That is forever its own reward. Old notions of education withered on every side under the clear gaze of our epoch-making young President, but this one fallacy slipped by unnoticed.

And thus it happened that to the class in Zoology of the Invertebrates was assigned a prize of fifty dollars.

The committee in charge decided that three students showed like merit and that the prize should be divided equally among them. These three were Simonds, a geologist, now Professor in the University of Texas; Comstock, a chaser of butterflies, and myself, who passed in those days as a botanist. Simonds had made the neatest and most accurate drawings, so it was said. Jordan had written the best examination paper, and Comstock seemed to know the most about the subject.

Simonds and I had a conference. We two had in sight money enough for another college year—not very clearly visible, to be sure, but seen to the eyes of hope. Comstock with no one behind him could feel to the bottom of his pocket. But he couldn't afford to leave his insects to go out to make money and we couldn't afford to lose him. Besides he deserved the prize. It is better to know animals than to write about them nicely or even to adorn one's knowledge with fair pictures. So Simonds and I stood back and left the prize to Comstock. We were modest in those days and I don't know that either of us ever took the pains to tell him. And soon after the chimes called him to be their master and then Dr. Wilder made him Instructor in Entomology.

And thus was laid the foundation of the Department of Entomology at Cornell, the first established in America, perhaps the first in the world, and the little room in the McGraw tower with its batch of insect boxes has grown to be a great center of instruction, investigation, and of practical application of knowledge, with eighteen teachers they tell me, besides student assistants, with over thirteen hundred students in actual attendance.

I cannot estimate the value of all this to the farmers and horticulturists of our country and I shall not try. Still less can I estimate the value of the training in realities all this work represents. Each day brings to student and teacher its share of new thoughts and new observations, for what is known in any science is only a small part of what should be taught. This the student must find out for himself. Every day in the real University new expeditions set forth in search of the unknown truth, whether it concerns the veining of a moth's wing, the slipping of a glacier, or the freedom of the will, all new knowledge shows the orderliness of the whole which amid all change and all variation shows neither variableness nor shadow of turning. For all change has its own unchanging methods and standards.

No Comstock eulogy is complete without a reference to Comstock's home. His marriage intensified his influence in every way. His home became the center of Nature-Study as of human friendliness. Scores of youth of promise of Cornell have owed as much to the personal sympathy of the Comstocks as to anything anybody taught them in the school. Not one of all of them—men or women—but renders grateful tribute to-day, not to Comstock alone, but equally to the gifted and big-hearted colleague, who as helpmeet has kept full step with him through all these years.

The chairman then introduced the next speaker as follows:

It is often said that men are not appreciated by their classmates until 40 years afterward. Like other rules this is proven by the exceptions.

The next address is by one of the brilliant thirteen whose petition, back in 1872, launched Mr. Comstock on his career as teacher of Entomology in this University.* It is with great pleasure that I introduce to you a classmate and a friend for all of these intervening years. Professor William R. Lazenby, of the Class of 1874.

ADDRESS BY A CLASSMATE

William R. Lazenby

Forty years ago the class of '74 completed the required course of study here at Cornell. I deem it only fair to say that most of the members of this class left the University at that time to begin their Education. But there were among our three score and six a few who had already begun the real business of life,—which is Education.

One of this number we all remember. We knew him because of his modesty, his devotion to study, and his genuine manliness of character. Necessity is our master and students like others are

*The reference here made is to the petition of thirteen students in Natural History and Agriculture to the Natural History Faculty of Cornell University requesting that "permission and facilities be given to J. H. Comstock to deliver a course of ten or twelve lectures during the present Trimester upon Insects injurious to Vegetation," and also asking that "attendance upon the lectures and an examination satisfactory to the Professor of Zoology be allowed to count as one hour per week; and that regular participation in the field work be allowed to count for the other hour of the two assigned to Entomology in the Spring Trimester of the 2d year of the 4-year course in Agriculture."

This petition bore the following signatures and indorsements:

Herbert E. Copeland,	G. E. Foster,
E. R. Copeland,	P. M. Chadwick,
J. A. Thompson,	W. H. Schumacker,
F. P. Hoag,	Thomas W. Jaycox,
David S. Jordan,	C. Y. Lacy,
M. C. Johnston,	R. W. Corwin,
W. R. Lazenby,	

Forwarded approved by the Faculty of Natural History.

Burt G. Wilder, *Dean.*

At a meeting of the Faculty [The General Faculty] held April 5, 1872, the accompanying application was granted.

W. T. Hewett, *Secretary.*

governed by the force of circumstances. Yet it was no ill fortune that compelled this young man to work for his own support during his college course. He found employment without trouble for he was willing to give an honest day's work for an honest day's pay.

I count myself fortunate as did many others, to have become well acquainted with this classmate early in my freshman year. I found him most generous and helpful. There were two traits of his character that stood out in marked prominence and impressed me greatly. One was his uncommon industry and the other was his still more uncommon honesty.

Some human qualities were signally lacking. He was never domineering; he was never obstinate; he was never patronizing. He never obtruded his counsel or sympathy. His influence was as gentle and persuasive as the spring sunshine or the summer shower. There were turbulent times in the student body during these early days and when the fitting word was needed he was the one whom we could trust to speak it.

Those whose acquaintance with Cornell is confined to more recent years can scarcely realize the primal chaos of her early life. The "New Education" was not royal then, and the young University though grand in conception, rich in endowment, and magnificent in scope, was in detail somewhat vague, unreal and shadowy. There were none of the traditions of college life, no such greetings of old college friends and classmates as we enjoy to-day. We were a band of strangers in a strange land with everything new, unfinished and untried. Yet we were happy, and the very audacity of the experiment here begun, the very crudeness, the pioneer-like roughness of the situation developed an intense loyalty in students and professors alike. I trust it is not so, yet I sometimes fear that this loyalty is waning in these more modern days. It was in those early years that the one to whom we pay a tribute of respect to-day, came to the University. He came here with a distinct and definite purpose.

He wanted to study insects, and although he was disappointed in not being able to do this at once, his natural taste for entomology was confirmed and deepened by the study of general zoology, anatomy and physiology, under enthusiastic and inspiring teachers.

I think there were few if any of our class whose education and training for a useful life work rested on a broader or more secure foundation. And when we find under and above this a character of spotless integrity, and a deep spiritual nature, we have the elements of a very noble manhood.

There are those who command our respect and esteem for their ability and scholarship, yet incite no special personal affection. There are others who attract us personally, whom we like, who become friends, but are lacking in any distinctive or impressive mentality. There are a few accomplished scientists and scholars, who are also warm-hearted, high-spirited, attractive men.

Such a man is our classmate, John Henry Comstock, whom we delight to honor to-day. I wonder if we have had among us anyone who has attained a greater success. His whole career as student, teacher, investigator, author, has been a most happy combination of the strenuous, the simple, and the abundant life.

Strenuous it has been, for in addition to his self-imposed tasks, not a little of his life work has been enforced and exacting; simple, because he has lived close to nature, and her laws have been the rule and guide of his daily conduct; and most of all abundant. Abundant in health, abundant in opportunity, abundant in accomplishment, abundant in honors, abundant in friendship.

Demanding little he has received much. I speak not for his classmates alone, for from all parts of the country there are men and women who, looking back to their college days on this campus, will in spirit lift to him the signalling hand, and say, "Hail friend and Master, thee we love."

The "Address by a Former Student" was to have been given by Dr. L. O. Howard, Chief of the Bureau of Entomology of the U. S. Department of Agriculture; but he was unable to be present, and sent a letter, which was read by Glenn W. Herrick. The reading of this letter was prefaced by the chairman as follows:

When we think of the beauty of this lake region with its wonderful geology, marvelously rich flora and fauna, we feel sure that its charm must have worked on unnumbered generations. It certainly worked on one of Ithaca's young men. He became one of Professor Comstock's students, and decided to devote his life to the subject presided over by his teacher. Recommended to an assistantship in the United States entomological service by Professor Comstock, he has seen that service increase, and under his guidance as its chief since 1894, it has grown from a subordinate division with small appropriations ($30,000) and few assistants (16), to a full fledged bureau (1907) with annual appropriations of over half a million dollars and with a corps of over 200 assistants and investigators.

LETTER FROM DR. L. O. HOWARD

I have been expecting until to-day to join you in Ithaca on Saturday and to help the rest of you tell dear Comstock how much we love him, how much we glory in his distinguished career as a teacher and producer, and how we wish him many more years of successful and uninterrupted work. But the government does not consider the personal wishes of its slaves, and a wholly unexpected official emergency will prevent me from taking the train to Ithaca to-morrow.

What fortunate fellows you college teachers are, with your long summer vacations, your sabbatical years, and your retiring pensions, but how abundantly Prof. Comstock deserves all these and more. And just think! if there had been as good a Civil Service law in 1880 as there is to-day, Comstock might still have been chief of the entomological service of the government and might to-day be writing you such a letter as this, explaining how he could not escape from Uncle Sam to join you in honoring some other fellow.

I was one of Comstock's first students, and we worked together in the little crowded room in the tower of McGraw Hall for four quickly passing years. And then he got me my first post in Washington, and six or seven months later came to the United States Department of Agriculture as my chief. Then followed two very happy years. Professor and Mrs. Comstock and I worked together, and almost lived together, under such delightfully intimate and perfectly sympathetic conditions that after thirty-three years thoughts of those days are among my dearest recollections. The amount of work we did in those two years, with the very important help of Theodore Pergande, was extraordinary. I believe that I have never done an equal amount of work in the same time since. That was because we were very young, because we were filled with enthusiasm, and because of our sympathetic intimacy.

And then they went back to Cornell. Since those days the entomological service of the Department of Agriculture here in Washington has had a remarkable growth, but the growth of Comstock's department at Ithaca has been just as extraordinary. And no one will deny that, aside from the influences which have operated in common with the two institutions, the dominant influence at Cornell has been Comstock's personality.

He cannot be praised too highly. His sound published work, the great department he has built up, his graduates in all parts of the world, offer memorials of his own making beside which the memorial

you are giving, however pleasing it will be to him as a recognition of his work, is in reality insignificant.

What a fine life he has led! And how fine will be the coming years! And what an enviable career when at last it shall have finished.

The chairman then said:

In giving our friend and teacher the evidence of our esteem and loyalty, we have selected as our spokesman a man of the wide vision which enables him to speak for all of us, whatever may have become our special life work.

PRESENTATION OF THE MEMORIAL TO PROFESSOR COMSTOCK

By James G. Needham

I have the honor to represent one of the largest bodies of pupils that ever made a common cause of its desire to honor a great teacher. Those who have come under the personal instruction of Professor Comstock number more than five thousand. These have been for the greater part students in the general courses of university instruction, but a considerable proportion of them have studied entomology with him; and of those who have done advanced work in entomology, more than fifty have become government entomologists or professors of entomology and zoology. They have carried the results of his labors to the ends of the earth. There is hardly a land where entomology is known that does not number some of his pupils among its men of science.

So it was inevitable that a movement should spring up to take special cognizance of the conclusion of so notable a teaching career. I must begin by confessing that this undertaking was clandestinely begun. We kept our plans carefully until they were well beyond recall. It was the only way. We knew better than to ask Professor Comstock to sanction any proceedings in his own honor. We went ahead with them because we couldn't help it. The impulse sprang up independently in several different quarters, and we came to feel that if in the end Professor Comstock didn't like it, he had himself to blame for it. If he didn't want something of the sort to happen at his retirement, he should have done differently during those 41 years.

We did endeavor to mollify the offence. We selected as a memorial the thing which it seemed to us would be the most serviceable to

future students, while being both appropriate and permanent. Furthermore, we refrained from solicitation of funds. No one was asked to contribute anything. The pupils of Professor Comstock have voluntarily contributed $2,500.00 mostly in small sums. It has been given gladly, even joyously. One of the delights of the local committee have been the reading in the letters of those who have contributed their testimonials of affectionate regard and enthusiastic loyalty.

Professor Comstock came to the University in a day when good books in entomology were more scarce than now. Much of the labor of his life among us has been spent in providing better books for students use. His own books make a good basis for a library in entomology. There are none of mushroom growth among them. Never were books more carefully prepared, or more carefully tried out in manuscript at the hands of students before publication. They are all of permanent value.

We have selected one of them to be the first volume of this memorial collection of books in entomology—his *Evolution and Taxonomy*, published in 1893 as a part of the Wilder Quarter-Century Festschrift. It seems to us best to typify his work at Cornell. It was the result of the labor of many years. Its stimulus lay in the needs of his classes for a better formulation of some of the fundamental principles of entomological science. It let in a flood of new light upon an old and much vexed subject.

(The speaker here read quotations from this work, showing its origin and its long progress, and then other quotations from prominent European investigators, showing the esteem in which this work is held abroad, and then continued.)

As I turn over the pages of this book to-day I see in them, not the thorough-going method they fostered in the study of homologies in general, nor the significance they pointed out in the venation of the wings of insects in particular; but I see those qualities here that characterized all his work and that made his teaching so effective:

1. *Clearness*—such clearness as never left anyone in doubt as to his meaning.

2. *Honesty*—simple honesty that went straight to the point, and reverenced the truth. How well all of us who studied in his laboratory remember his injunction "Be sure you are right, and then look again."

3. *Patience and diligence*, that labored for years toward the production of this little book, at first gropingly, and then when the light shone and the way was clear, going forward by leaps and bounds: but whether making visible progress or not—never ceased from labor.

4. *Open mindedness and generosity*, that gave to the works of others always more credit than was their due.

This morning when I wakened I fell to thinking of years gone by; and a burden lay upon me because I feared I had not sensed the true significance of this hour. So I wandered up the hill and across the quadrangle while the dew sparkled upon the grass, and the outspread webs of the spiders lay shimmering in the morning light. And I stopped at White Hall and looked up at that east window of the upper room, the window through which during so many fruitful years, the morning light had flooded in to find the investigator already at his tasks, and then I felt I knew why we were impelled to this meeting. You all (except those who have come most recently) know that window, and the plain but orderly desk that stood behind it. Perhaps you recall that there always lay a few prints upon it, made from photographs taken to show some fact that had just been nailed down.

It was the investigator who sat through the early morning hours, working joyfully at self-appointed tasks. And when the chimes rang out their summons to the students, then it was the teacher who went out gladly into the laboratory. But between the study and the laboratory there was an open door. Each gained inspiration from the other. There was nothing too precious in the one for the use of the other if the other needed it. The relations between the two were ideal. And relations between master and pupils such as have (in America at least) been most productive of valuable educational and scientific results.

But there was another window that looked out eastward from that upper room, and there at another desk was a co-laborer, herself a graduate of Cornell and a lover of the ways of nature. It would be but a poor acknowledgement of our debt that did not mention Mrs. Comstock in this hour. Mrs. Comstock mastered the art of wood engraving and set a new standard of entomological illustration. To the work of founding a great department of entomology Mrs. Comstock brought those qualities of mind and heart that sweetened all our experiences as students here, and bound us forever to the cause.

She has habituated us to the warmth of her fireside, and as long as she lives, our feet will ever be turning toward her hospitable door.

Professor Comstock:

I beg to hand you here the first volume of the special collection of books in entomology that we desire shall bear your name. Funds for the purchase of other books are at your command. We hope you yourself may use these books for many years to come, you will still be our co-laborer and guide. We ask you to accept this offering as a slight acknowledgement of our debt to you, and of our well wishes for your future years.

The volume handed to Professor Comstock was a handsomely bound copy of his work bearing the following title:

EVOLUTION AND TAXONOMY

An Essay on the Application of the Theory
of Natural Selection in the Classification of Animals and Plants

Illustrated by a Study of the

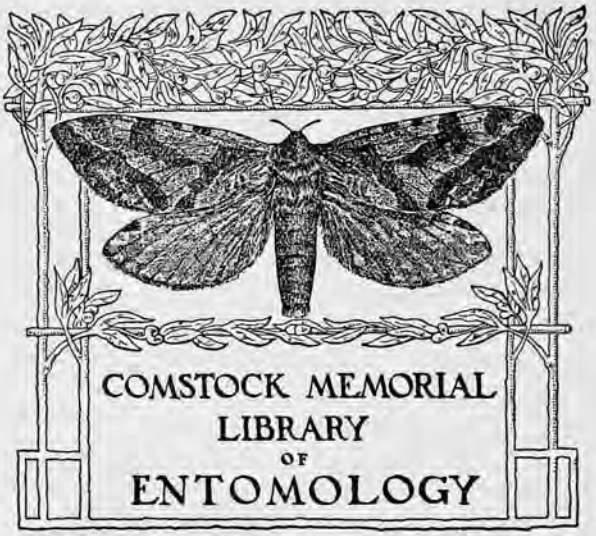
Evolution of the Wings of Insects
and by
A Contribution to the Classification of the Lepidoptera

by

JOHN HENRY COMSTOCK, B.S.

Extracted from
The Wilder Quarter-Century Book

Ithaca, N. Y.
1893



The above is a copy of the book plate adopted for use in the books in the Comstock Memorial Library of Entomology.

The insect figured is a species of Hepialus, the study of which played an important part in Professor Comstock's investigations regarding the evolution of the wings of insects.

In calling upon Professor John Henry Comstock, Recipient of the Memorial Library Fund, the Chairman said:

My friends, I feel sure that you will care to see into the heart and know something of the aspiration of a true teacher when he hears the voices of his pupils calling him.

PROFESSOR COMSTOCK'S RESPONSE

Mr. Chairman, former students, and Friends:

Never before have I felt so keenly the inadequacy of words to express my feelings. I appreciate to my utmost ability what has been said and the bestowal of this testimonial. My heart is filled with gratitude for both. But this seems little to say in return for these expressions of appreciation, and for so great a gift, and all that the giving of it implies; but I do not know how to say more.

My lot has been a happy one. For more than forty years I have been permitted to teach the subject, for which I care most, to generation after generation of earnest students. I have seen many of these

students become leaders in their chosen field of labor. I have seen the special subject which when a lad I chose for my specialty, but which was not then taught in any college, become a recognized part of the curricula of many colleges. And in our own University I have seen the growth of an appreciation of this subject and of financial support for it, far beyond the most sanguine dreams of my youth.

I realize, however, that this great development of entomology is merely a minor part of the sweeping educational revolution that has taken place in our time and which was so clearly foreseen by the intellectual founder of this University, our beloved President White, and which has been so successfully promoted by the present Head of the University, President Schurman.

The opportunity to take even a minor part in this great development should be sufficient reward for one having had that opportunity. I feel, therefore, that this testimonial is an excess of largesse; and had I been consulted in time I should have discouraged the offering of it.

I hasten to say, however, that I am not ungrateful. Nothing could be more precious to a teacher than such evidence as this of the appreciation of him by his former students, and I wish to thank each and all for it.

If a testimonial must be given, I think that nothing could be better than that chosen. It is not merely a thing of to-day, but will remain a help to students long after the occasion that suggested it is forgotten.

Now that the time for my retirement is at hand, I wish to express publicly my appreciation of the loyalty to the entomological department exhibited by all of those who have been selected to carry on its work. In planning the reorganization of the department, for I was permitted to make the plan that has been adopted, I found each of my colleagues more anxious to do what was best for the department than to advance his personal interests. I am happy to turn over what has been a child to me for the greater part of my lifetime to the care of those who are so unselfish, loyal and efficient.

In conclusion I wish to transfer this fund that has been given to me to those who will care for it permanently and administer its income properly. I, therefore, President Schurman, ask you to accept it for Cornell University to keep in trust and to use its income for the purposes indicated by the donors of the fund.

The Chairman then said:

And now, President Schurman, it is with great pleasure that I ask you to accept this memorial fund for the University. It represents not only our tribute of love and admiration for our friend and teacher, but our loyalty to the University, and our desire and hope that this Memorial, while keeping forever in remembrance the noble man and investigator whose name it bears, will also contribute to the influences which will encourage others, like him, to develop, flower, and come to full fruitage in the garden of the spirit.

It is furthermore a pleasure to us to have *you* accept this memorial, for we know with what earnestness and high ability you have done all in your power to make our Alma Mater realize, in our day and generation, the noble ideal of the ancient Greek University with its appreciation of all science and art, and all that makes for the supreme interests of the human race.

ACCEPTANCE ON BEHALF OF THE UNIVERSITY

By President J. G. Schurman

I do not think it is too much to describe this occasion as one of the great days in the history of Cornell University. A University is made by the men who teach and work in it. And we are to-day celebrating the achievements of a professor who has brought honorable renown upon himself and upon the University.

What do we mean by success in life? Is it not the selection of a worthy ideal and the devotion of one's self to its realization? Professor Comstock's ideal was to be an investigator and teacher of science. To that object he has given whole-souled devotion and unwearied industry. Until recently he was my next door neighbor, and I remember that for many years he regularly began his daily work at four o'clock in the morning. The publications which have been described to you by previous speakers indicate what large contributions he has made to entomological science. And the great number of old students of his who are now scattered all over the country and who join in this tribute of admiration, bear impressive and eloquent testimony to his success as a teacher. May I not also add that the sentiments of esteem and affection which they cherish for him testify also to their appreciation of the sincerity and nobility of his character?

And so (*taking Professor Comstock by the hand*), I congratulate you, my dear friend, on this memorable celebration. On behalf of the University I accept from you, with peculiar feelings of gratitude, this fund which your friends have contributed for the establishment of a

Comstock Memorial Library in Cornell University. With your scientific work and your services to this University, it will combine to keep your memory fresh among Cornell men for generations still unborn.

LETTERS

Of the many letters from those who were unable to be present at the presentation exercises the following from teachers of entomology are selected for publication here.

ONTARIO AGRICULTURAL COLLEGE,
GUELPH, Canada, June 11th, 1914.

My dear Mrs. Comstock:

I recently received an invitation to attend the exercises in connection with the presentation to Cornell University of the Comstock Memorial Library Fund. I am sorry indeed that I am unable to accept the invitation and be with you Saturday afternoon—it would have given me very great pleasure to be present on such an interesting occasion. It must be very gratifying to you and Professor Comstock that his forty-one years of active service should be so appropriately recognized.

I wish to congratulate you both on the attainment of so remarkable a position. It is very rare that a man can give to an institution more than two score years of active service, and still more rare that during all that period he should have the aid and sympathy, and encouragement also, of a competent help-meet in the person of his wife.

Wishing you and Prof. Comstock many more years of activity and happiness and with kindest regards,

Yours very faithfully,
CHARLES J. S. BETHUNE.

THE UNIVERSITY OF NEBRASKA,
LINCOLN, June 5, 1914.

Committee in Charge Comstock Memorial,
Cornell University,
Ithaca, N. Y.

Gentlemen:

I am in receipt of your very kind invitation to be present on Saturday, June 13, 1914, at the exercises in connection with the presentation of the Comstock Memorial Library Fund to Cornell University.

I wish it were possible for me to attend those exercises, but I find that the closing exercises of our present school year will require my remaining here in Nebraska. I wish to extend my congratulations to Professor Comstock on his completion of such a long and useful Professorship in connection with one of the strongest departments of Entomology in the country; and I hope he will have many more years of usefulness in the field of Entomology.

Hoping that you will have a very pleasant time, I remain,

Yours very truly,
LAWRENCE BRUNNER.

MASSACHUSETTS AGRICULTURAL COLLEGE GRADUATE SCHOOL,
AMHERST, Mass., June 11, 1914.

My dear Professor Gage:

I should be delighted to be present at the Comstock Memorial Exercises, but failing health and advancing age make it impossible for me to do so.

I am very glad indeed that he is to be thus honored on his retirement from active duties. Professor Comstock has seemed like a brother to me ever since I first knew him. I regard him as by far our best morphological entomologist in this country and perhaps in the world. I was delighted when the Entomological Society of London elected him an honorary member.

All honor to so fine a type of man as Prof. J. H. Comstock.

Sincerely yours,
C. H. FERNALD.

MASSACHUSETTS AGRICULTURAL COLLEGE, DEPARTMENT OF ENTOMOLOGY,
AMHERST, Mass., June 8, 1914.

Professor S. H. Gage,
Cornell University,
Ithaca, N. Y.

My dear Sir:

I greatly regret that I am unable to accept the invitation to be present at the Presentation Exercises of the Comstock Memorial, June 13, 1914. Unfortunately we shall be in the middle of the closing work of the year and it will be impossible for me to get away.

I regret this the more, as I should otherwise surely be present at the exercises and do all in my power to do honor to one who for so many years has been a leader in the entomological progress of this country, and who by his own work and also through the students he has sent out has had such an influence in its progress.

I believe that the "Cornell School of Workers" has been a tremendous factor in the development of entomology along the best lines, and am glad, in this way at least, to offer a word of appreciation of the magnificent work accomplished by Professor Comstock during his long service.

Yours very truly,
H. T. FERNALD.

(The following letter is from the Professor of Entomology in the State University of Kentucky):

LEXINGTON, Kentucky, June 6, 1914.

The Committee in Charge of the Comstock Memorial:

Dear Sirs:

I wish to acknowledge with my thanks your kind invitation to be present at the presentation exercises of the Comstock Memorial Library Fund and to express my regret that I shall be unable to come to Ithaca on an occasion the purpose of which meets so entirely my approval. No one connected with the University is more worthy of such a testimonial, and the idea of establishing this very appropriate memorial while Professor Comstock lives and can enjoy it is altogether good.

Please give him my regards and good wishes, and convey to him my high appreciation of his helpful influence on the study of nature in America.

Yours very truly,
HARRISON GARMAN.

CARNEGIE MUSEUM, DEPARTMENT OF THE CARNEGIE INSTITUTE
PITTSBURGH, Pennsylvania, U. S. A., June 1, 1914.

President J. G. Schurman,
Cornell University, Ithaca, N. Y.

My dear Sir:

I have received the kind invitation of the Committee in charge of the Comstock Memorial inviting me to be present on Saturday afternoon, June the 13th, 1914. It would give me great pleasure to join with others on that occasion in doing honor to my esteemed friend, Professor Comstock, whose services as a man of science, and especially as an entomologist, have given him world-wide fame. Unfortunately, however, it will be impossible for me to accept the invitation owing to other demands upon my time which are urgent.

I am, with sincere regards,

Yours very truly,
W. J. HOLLAND,
Director of the Carnegie Museum.

(The following letter is from the Professor of Entomology in Leland Stanford Junior University):

CARMEL, Calif., June 3, 1914.

Dear Professor Comstock:

The formal invitation to the Memorial presentation comes to me here—with full effect.

Whenever I am in Carmel I always get to wondering just how worth while is all the straining work at the University. It seems, someway, here, in the face of the old trees, the older hills, and the still older ocean, that a man's swift moment might be just as well put in at living less strenuously, more wonderingly, and more fatalistically; accepting the easy fate of an interested but not too anxious spectator of the unrolling of the destiny of the earth and that which on it is.

But when I am reminded of the twenty-three years of your work that I have known in some degree, personally, and of the other eighteen that I know, in some measure, about, the "forty-one years of active service," I am pulled together with a firm pull—it comes directly from you—and made to see how truly worth while "active service" is.

And, so if I may send my little contribution to you on this occasion, it will simply be the naively egoistic one of telling you how much your work and you mean to *me*—to me and my work. Even though I haven't done much, I should have done less if I had not known you, and even though I am not much I should have been less than the little that I am had there been no *you*.

Always gratefully, your pupil,
VERNON L. KELLOGG.

The Carmel Cabin.

COLLEGE OF AGRICULTURE AND EXPERIMENT STATION, UNIVERSITY OF TENN.
KNOXVILLE, June 2, 1914.

My dear Prof. Comstock:

Just a note to express my regret at not being able to attend the exercises associated with the presentation of "The Comstock Memorial."

I am very happy over this expression of esteem on the part of your students and admiring friends and I shall think of you and Mrs. Comstock on that day.

You have had more to do with guiding my life than anyone and I always have been, and always will be, deeply grateful.

With sincerest regards and best wishes to Mrs. Comstock and you, I beg to remain,

Cordially yours,
H. A. MORGAN.

WEST VIRGINIA UNIVERSITY,
COLLEGE OF AGRICULTURE AND AGRICULTURAL EXPERIMENT STATION,
MORGANTOWN, June 8, 1914.

My dear Professor Comstock:

I am sorry indeed that I cannot be present on Saturday next when our Committee will deliver to you the slight memorial from the hundreds of students you have inspired. I know, however, that it will be a happy occasion, and I feel sure that you feel, as we all do, that your retirement from active duties in the University will merely give you more time for devoting yourself to whatever research attracts you.

With kindest regards to you and Mrs. Comstock and with sincere appreciation of the great work you have done at Cornell and the good start you gave me personally, I am,

Sincerely yours,
E. D. SANDERSON.

RESOLUTIONS BY THE AUTHORITIES OF CORNELL UNIVERSITY ON THE RETIREMENT OF PROFESSOR J. H. COMSTOCK

OFFICE OF THE SECRETARY OF THE BOARD OF TRUSTEES, CORNELL UNIVERSITY,
December 17, 1913.

Professor J. H. Comstock,
College of Agriculture, Campus,
Ithaca, N. Y.

My dear Prof. Comstock:

I beg to advise you that the Executive Committee of the Board of Trustees in accepting your resignation have taken the following action:

"In accepting the foregoing resignation the Trustees congratulate Professor Comstock on his long, honorable, and fruitful service to Cornell University, with which as student and teacher he has been associated almost without interruption since he matriculated as a Freshman, and they bear grateful testimony to his success in teaching and in inspiring students, and also in scientific investigation

for the continuance of which they trust his health and energy may be preserved for many years to come, to the honor of his Alma Mater and the advancement of truth and knowledge.

Yours very truly,
C. D. BOSTWICK,
Assistant Secretary.

MEMORIAL MINUTE ON THE RETIREMENT OF PROFESSOR JOHN HENRY COMSTOCK

Adopted by the University Faculty on June 12, 1914

To John Henry Comstock, who for forty years has served the University as instructor and professor of Entomology, the University Faculty desires to extend its heartiest congratulations upon the notable achievements of his long career and to express its deep regret that his active connection with the teaching staff is drawing to a close.

What Cornell University owes to him, its senior member, cannot be expressed in words. An inspiring teacher, an indefatigable investigator and a man of true scientific spirit, he has ever stood for the highest ideals in the affairs of the University. Through his own researches he has enriched the science to which he is devoting the labors of a life time. Wherever Entomology is known he is recognized and honored. Through the work of hundreds of devoted and enthusiastic pupils who owe to him their training and who have derived from him their inspiration, science is being notably furthered and our civilization incalculably benefited.

All these and numerous colleagues, co-laborers and friends throughout the world would join his friends and colleagues in the Faculty, in wishing Professor Comstock the enjoyment of his well-earned relief from administrative and pedagogical burdens, and many more years of happy scientific work.

A PARTIAL LIST OF THE WRITINGS OF JOHN HENRY COMSTOCK

It has been impracticable to include in this list the titles of book reviews and articles on economic entomology published in various agricultural journals, as no record has been kept of them.

1872. Report of remarks on insect architecture, Before the Natural History Society, Jan. 27, 1872. *The Cornell Era*, Vol. IV, p. 261.

1875. Notes on entomology; a syllabus of a course of lectures delivered at Cornell University. Spring trimester, 1875. Ithaca, N. Y., 1875, pp. XII + 154. (Several subsequent editions were published).

1879. Report upon cotton insects (U. S. — Department of Agriculture. Wash., 1879, pp. V + 511. Plates and wdcts.).

On a new predaceous lepidopterous insect. (In North American Entomologist Vol. I, No. 4, 1879).

1880. Report of the Entomologist of the United States Department of Agriculture for the year 1879.

(U. S.—Department of Agriculture Report. Wash., 1880. pp. 185–262. Six plates).

Cotton insects. (U. S.—Department of Agriculture. Report. Wash., 1880. pp. 263–348. Plates 7–16).

1881. Report of the Entomologist of the United States Department of Agriculture for the year 1880. (U. S.—Department of Agriculture. Report. Wash., 1881. pp. 235–373, plates 1–24).

Report on insects injurious to sugar cane. (U. S.—Department of Agriculture. Special Report No. 35. Wash., 1881. wdcts.).

Notes on Coccidæ. The Canadian Entomologist. Vol. XIII, Jan., 1881, p. 8.

An aquatic noctuid larva, Arzama melanopyga Grote, new species. Papilio, Vol. I, p. 147.

1882. Report on insects for the year 1881. (U. S.—Department of Agriculture. Report, 1881. pp. 3–22. 7 plates. Wash., 1882.)

Second report on scale insects; including a monograph of the sub-family Diaspinæ, of the family Coccidæ, and a list with notes of the other species of scale insects found in North America. (In Cornell University—Experiment Station. Report, 1882–3. Ithaca, N. Y., 1882, pp. 46–147. 4 plates, wdcts).

Lecture on scale insects. (In Western N. Y. Hortic. Soc. Proc. 1882).

Guide to practical work in elementary entomology; an outline for the use of students in the entomological laboratory of Cornell University. Ithaca, N. Y., 1882, pp. 35.

1883. The hop-vine borer, or hop-grub. American Agriculturist Vol. XLII, June, 1883, Illus. (First published account of the transformations of Apanea immanis).

1884. Insect enemies of fruit. (In N. Y. State Agri. Soc. Trans. Vol. XXXIII, 1877–82. p. 322, Albany, N. Y., 1884.)

Hymenoptera. (In Kingsley, J. S. Editor. Standard Natural History. Vol. II. p. 503. Boston, 1884).

1886. Outlines of lectures on invertebrate zoology, given before the students of Cornell University. Ithaca, N. Y., 1886. (Many subsequent editions).

1887. Editor Entomology. (Amer. Naturalist, Vol. XXI, pp. 381, 480, 577, 770, 853, 932, 1029, 1118).

The joint-worm in New York. (Amer. Naturalist, Vol. XXI, p. 381).

Relations of the ants and aphids. (Amer. Naturalist, Vol. XXI, p. 382).

On the emergence of a caddice-fly from the water. (Amer. Naturalist, Vol. XXI, p. 480).

Note on the respiration of aquatic bugs. (Amer. Naturalist, Vol. XXI, p. 577).

A new form of vial for alcoholic specimens. Fig. (Amer. Naturalist, Vol. XXI, p. 771).

On the homologies of the wing-veins of insects. (Amer. Naturalist, Vol. XXI, p. 932). (Review of paper by Redtenbacher.)

1888. An introduction to entomology; with many original illustrations drawn and engraved by Anna Botsford Comstock. Ithaca, N. Y., 1888, pp. iv + 234. wdcts.

List of works on economic entomology, especially American. (In U. S.—Department of Agriculture. List of books and pamphlets useful in agricultural study and research, 1888).

Editor, Entomology, (Amer. Naturalist, Vol. XXII, pp. 68, 177, 260, 364, 468, 545, 654, 751, 842, 937, 1033, 1128).

The grass-eating thrips. (Amer. Naturalist, Vol. XXII, p. 260).

A laboratory of Experimental Entomology. (Amer. Naturalist, Vol. XXII, p. 468).

Color-relations between pupæ and their surroundings. (Amer. Naturalist, Vol. XXII, p. 1033).

Serious injury to apples by the plum curculio. (Amer. Naturalist, Vol. XXII, p. 1035.)

On the methods of experiments in economic entomology. Plate (Amer. Naturalist Vol. XXII, p. 1128).

The insectary of Cornell University, figs. (In Cornell University—Agricultural Experiment Station, Bulletin III, p. 25, Nov., 1888).

On preventing the ravages of wireworms. (In Cornell University—Agricultural Experiment Station Bulletin, III, p. 31).

On the destruction of the plum curculio by poisons. (In Cornell University—Agricultural Experiment Station. Bulletin III, p. 40.)

1889. The joint worm (*Isosoma hordei*). (In New York State Agricultural Society Transactions, Vol. XXXIV, 1883–1884, p. 995. Albany, N. Y., 1889).

Report of the department of entomology. (In Cornell University—Agri. Experiment Station. Report, 1888, p. 19. Ithaca, N. Y., 1889).

On a saw-fly borer in wheat, *Cephus pygmæus* Plate and wdcts. (In Cornell University—Agricultural Experiment Station. Bulletin, Nov., 1889. No. XI, p. 127).

The apple tree tent caterpillar, *Clisiocampa americana.* (In Cornell University—Agricultural Experimental Station, Bulletin Dec., 1889. No. XV, p. 199).

Editor, Entomology. (Amer. Naturalist, Vol. XXIII, pp. 61. 451).

On preventing the ravages of wireworms. (Amer. Naturalist, Vol. XXIII, p 61).

1890. The clematis disease, or nematodes infesting plants. (In Western N. Y. Hortic. Soc. Proceedings of the 35th meeting. Jan., 1890, p. 7).

Report of the entomologist. (In Cornell University—Agricul. Experiment Station. Report 1889. p. 19. Ithaca, N. Y., 1890).

Insects injurious to fruits. (Cornell University—Agricultural Experiment Station. Bulletin, Dec., 1890, No. XXIII, p. 103, illus.) Senior author with M. V. Slingerland.

On the study of "bugs" (N. Y. Ledger, 1 March, 1890).

Beneficial insects. (N. Y. Ledger, 8 March, 1890).

On the destruction of insects. (N. Y. Ledger, 15, 22 March, 1890.)

The more important pests of the apple. (N. Y. Ledger, 29 March, 1890).

Some common garden pests. (N. Y. Ledger, 5 April, 1890).

1891. Report of the entomologist (In Cornell University—Third Ann. Report of the Agri. Exper. Station, 1890, p. 35, Ithaca, N. Y., 1891).

Wireworms; results of efforts to discover a practicable method of preventing the ravages of these pests, and a study of the life history of several common species (Cornell University—Agricultural Experiment Station, Bulletin, Nov., 1891, No. 33, p. 193. Illus.). Senior Author with M. V. Slingerland.

1892. Report of lecture before the California Zoological Club, Jan. 30, 1892. Zol, Vol. III, pp. 84-86.

The descent of the Lepidoptera; an application of the theory of natural selection to taxonomy. (In Amer. Assoc. for the Advancement of Science. Proc., 1842, Vol. XLI, p. 199).

1893. Evolution and taxonomy; an essay on the application of the theory of natural selection in the classification of animals and plants, illustrated by a study of the evolution of the wings of insects, and by a contribution to the classification of the Lepidoptera. (In Wilder Quarter-Century Book, 1893, pp. 37–113, Illus.).

1895. A manual for the study of insects. Ithaca, N. Y., 1895, pp. x + 701, 6 plates and 798 wdcts. Senior author with Mrs. Anna Botsford Comstock.

The elements of insect anatomy. An outline for the use of students in entomological laboratories. Ithaca, N. Y., 1895, pp. iv + 96, Figs. Senior author with Vernon L. Kellogg.

Same. Revised Ed. Ithaca, N. Y., 1899, pp. 134.

Same. Third Ed. revised, Ithaca, N. Y., 1901, pp. 145.

The significance of the B.A. and Ph.B. degrees. Privately printed for the use of the faculty of Cornell University. Ithaca, N. Y., 1895.

1899. The wings of insects. A series of articles on the structure and development of the wings of insects, with special reference to the taxanomic value of the characters presented by the wings. Reprinted from The American Naturalist, with the addition of a table of contents. 124 pages, 90 figures. Ithaca, N. Y., 1899. Senior author with James G. Needham. [The articles appeared originally in The American Naturalist, Vol. XXXII, (1898), pp. 43, 81, 231, 237, 240, 243, 249, 253, 256, 335, 413, 420, 423, 561, 769, 774, 903; Vol. XXXIII, (1899), pp. 118, 573, 845, 851, 853, 858.]

Insect life. An introduction to nature-study and a guide for teachers, students, and others interested in out-of-door life. New York, 1897, pp. 14 + 349. 6 plates and 252 wdcts.

The same, with full-page plates from life representing insects in natural colors. 18 plates, New York, 1901.

1901. Spiders. (Cornell Nature-Study Quarterly, May, 1901, No. 9, p. 228).

The wings of the Sesiidæ (In Monograph of the Sesiidæ by William Beutenmuller. Memoirs Amer. Museum Nat. Hist. Vol. I, p. 220).

1902. The skeleton of the head of insects. (Amer. Naturalist, Vol. XXXVI, No. 421, pp. 13–45. 29 figures. Senior author with C. Kochi).

1903. A classification of North American Spiders. Ithaca, N. Y., 1903, pp. 56.

1904. How to know the butterflies. New York, 1904, pp. xii + 311. 45 colored plates and 50 wdcts. Senior author with Mrs. Anna Botsford Comstock.

1905. Outlines of lectures on the morphology and development of insects. Ithaca, N. Y., 1905, pp. 51. Senior author with William Albert Riley.

1907. The hackled band in the webs of certain spiders. Proc. of the Amer. Ass. for the Adv. of Sci., Vol. LVI, p. 280 (1906). 1907.

1909. A note on the habits of the wall-bee, *Chalicodoma muraria.* (Annales of the Entom. Soc. of America. March, 1909, Vol. II, p. 9.)

1910. The palpi of male spiders. (Annales of the Entom. Soc. of America, Vol. III, pp. 161–185, 25 figures).

1911. The present methods of teaching entomology. (Journ. of Economic Entomology, Vol. IV, p. 53).

1912. The spider book; a manual for the study of spiders and their relatives, the scorpions, pseudoscorpions, whipscorpions, harvestmen, and other members of the class Arachnida, found in America north of Mexico, with analytical keys for their classification and popular accounts of their habits. New York, 1912, 4°, pp. 721, 770 figures.

The evolution of the webs of spiders. (Annales of the Entom. Soc. of Amer. Vol. V, p. 1.

The silk of spiders and its uses. The Trans. of the second Entomol. Congress 1912, pp. 10. 3 plates.